

The MAZE Bank

A community float, a decay rate, and a ledger that does not add up

J. Konstapel, Leiden, September 2026

I. The trit

The MAZE begins one layer below money. It begins in arithmetic.

Its alphabet is balanced ternary. Every place in a number is one of three values: -1 , 0 , or $+1$. Such a place is called a trit. The lineage of this alphabet is physical, not financial. It comes from a vacuum that sums to nothing. Every object in it already carries its own annihilation. Nothing has to be added from outside to make the books close. The closing is built into the notation.

From that ground the MAZE builds one self-addressing net. The address of a thing is computed from its content. It is never assigned by an authority and never declared by an owner. Three and a half million entries already live in this net. Each carries a receipt that can exist only once.

Read the three marks as situations. A minus is an obligation: value received, not yet returned. A plus is a credit: value given, not yet drawn. Zero is rest. These are not moral categories. A minus is not guilt and a plus is not virtue. They are positions in a field of tension, the way a stretched knot in a net is a position.

A process is an ordered pair of situations: a move from one to the other. Between three situations, seven such moves exist when every jump between minus and plus is required to pass through zero. That requirement is not a technicality. In the underlying framework every transition passes through the midpoint. Clearing a debt and building a credit are therefore two steps, not one. A nine-move alphabet, allowing the direct jump, exists as an explicit alternative. But seven is the standard, frozen when a ledger opens.

Money, when it finally appears, is only bookkeeping over these moves. That is the claim everything else follows from. Money is not the thing exchanged. What is exchanged is action for action. The book merely remembers which actions have not yet come back around. And as we will see, the moves come in three kinds — a purchase, a loan, and a gift — which is a distinction a century old, made by a man who was not an economist.

II. A bank that cannot live from standing tension

To see what the MAZE Bank replaces, look at what an ordinary bank actually lives from.

It does not live from payments. It lives from float: money that stays inside, among its own customers. Money in transit has all but vanished; the settlement systems have compressed it to seconds. What remains is the standing stock. A deposit can be called tomorrow. A loan runs for ten years. The bank earns the price of that mismatch.

A treasury does not manage the stock. It manages the forecast of what will leave. The cost of that management has a shape:

$$\text{cost} = k \cdot \sigma \cdot \Delta r$$

A safety factor k , times the volatility σ of daily outflow, times the spread Δr between short and long rates. Take a book of one hundred billion. Let the forecast of daily outflow be wrong by one percent, so σ corresponds to one billion of uncertain movement. Let the spread be a modest two percent, and let the safety factor be a cautious 2. The buffer that must be held liquid is then two billion, and the yield foregone on that buffer is two percent of it: forty million a year. Every improvement in the forecast releases part of that buffer into the long book. Tens of millions are earned or lost this way, without a single new customer.

This also explains a fact every banker knows and few state plainly. Every internal transaction — customer of the bank paying another customer of the same bank — is noise that drops out of the forecast. Nothing leaves. The real prize in a bank merger is therefore not the sum of the customers. It is the cross-flow between them, which becomes internal on the day of the merger.

Now close the currency.

Let a circle issue a unit — call it a seed — that works only inside and cannot be exported. Three things happen at once. All traffic is internal, so market share is one. Nothing leaves, so the volatility of outflow is zero. There is no money market to lend the float into, so the spread is zero. Put those into the formula. The treasury margin does not shrink. It disappears. This is the design, not a defect.

An institution whose float is the whole cannot live from holding tension. It has to live from loops that close. So the place of interest is taken by its opposite. Let a seed lose a small fraction d of its value each week. Two thinkers arrived at this, from opposite directions. Silvio Gesell called it demurrage: money that rusts, so that holding it costs what hoarding it used to earn. His idea was tested in the Austrian town of Wörgl in 1932 and shut down by the central bank precisely because it worked. Rudolf Steiner, a decade earlier, called it aging money: money should grow old and finally die into a gift, because its value was never meant to stand forever. Under decay, standing balances in either direction drift back toward zero. The creditor gains a reason to draw. The debtor gains a reason to settle. And every credit that nobody ever draws quietly completes itself as a gift to the whole. Two things are retired at once: the interest margin, and the manufactured scarcity that central banks had to construct so that their quotas would bite.

Decay also fixes the size of the system, and it does so with one line of arithmetic. Issue i seeds per member per week. Decay the standing stock by a fraction d per week. The stock then settles at an equilibrium:

$$F\star = i \cdot N / d$$

Work it through. Ten seeds per member per week, a decay of two percent per week, gives $F\star = 10/0.02 = 500$ seeds per member. Halve the decay to one percent and $F\star$ doubles to 1,000 — without one extra seed being issued. The decay rate is therefore not a technical parameter. It is a statement about how long a circle lets an obligation stand. A circle that wants short memory chooses fast rust. A circle that tolerates long-standing positions chooses slow rust.

One more property has to be said out loud, because it offends every consolidated instinct. The ledgers do not add up. Each layer carries its own medium. A neighbourhood's two hundred thousand seeds are not sixteen of anything a city holds. There is no exchange rate between layers, so there is no national total. And where there is no total, there is nothing to steer from above. That absence is the point. A number that does not exist cannot be taxed, targeted, or optimised by a ministry.

III. Four kinds of exchange

Money is not one thing. That is the second foundation of the bank, and it comes from anthropology rather than physics.

Alan Fiske, surveying cultures worldwide, found that all human relations run on four universal types, each with its own form of exchange and its own scale of measurement. Communal Sharing: giving and sharing without account, where the only measurement is nominal — you belong or you do not. Equality Matching: reciprocity, turn-taking, keeping balance — barter, rotating rings, the counted favour. Authority Ranking: tribute and tax, what flows upward to king and priest. And Market Pricing: the price, the ratio scale, the euro. Only the last one is money as the West understands it.

The Western bias is to mistake this last type for the whole. Market Pricing is so pervasive that, like fish in water, we no longer see that exchange existed for millennia without it. And Market Pricing has a signature geometry: it turns everything into a chain. Porter's value chain is its emblem — a long causal line of activities, priced at every link. In truth the chain is a cycle: it begins and ends with a human. But stretched into a chain, it wastes. Energy and resources leak at every link, invisible to the customer standing at the far end. Georgescu-Roegen built ecological economics on exactly this observation.

The history of money-instruments is then easy to read, and the reader is already standing in it. First barter and shared stores. Then physical value: gold, salt. Then the written promise to pay. Then paper. Then the number in a computer — and beside the official number, a whole family of closed units everyone already uses without calling them money. Savings stamps. Gift cards. Airmiles and reward points that cannot leave the shop that issued them. The bar card of the association. Every one of these is a currency that works only inside and cannot be exported. The closed unit is not an exotic invention; it is ordinary life.

The deliberate versions of it are just as widespread. LETS — Local Exchange Trading Systems, founded by Michael Linton in 1983 — put mutual credit on neighbourhood scale: balances as sums, no issuing authority, thousands of rings across Europe in the nineties. LETS also taught the family its first hard lesson: the rings died of dead balances — sleeping credits and debts that nobody closed anymore. Decay is the direct answer to that cause of death. Time banks do the same with the hour as unit: an hour is an hour, whoever gives it, which is Equality Matching in its purest form. Town currencies like the Totnes Pound and the Brixton Pound made the idea civic and visible — and taught the second hard lesson: they were convertible to sterling, one to one, and the convertibility drained them. Totnes closed in 2019. A door to the outside currency empties the ring; that is why the maas has a border-posting and not an exchange rate.

Then the anthroposophical line, which built actual banks. Rudolf Steiner, in his economics course of 1922, distinguished three qualities of money: purchase money, loan money, and gift money — three different movements, not one substance. From that school grew a banking practice: the GLS Bank in Bochum, founded 1974 as a "community bank for lending and giving," which began as guarantee circles around Waldorf schools — groups of parents jointly standing for a loan instead of pledging collateral. Then Triodos in Zeist, 1980, and its siblings in Basel, Copenhagen and Oslo: banks that show their savers what their money finances. Three elements of the MAZE Bank come straight from this line, and the next section takes them up.

Then the digital lineage. The blockchain: a centralised system that looks decentralised, buying consensus with energy, failing in practice on scalability, usability and governance. Its correction, Holochain: no global ledger at all, each agent holding its own chain — not a Market Pricing instrument but a Communal Sharing one. And beside this whole series, older than most of it, hawala: no money moving at all, only the payment instruction, passed between trusted brokers. Aval

means guarantee. The digital euro, meanwhile, is not a step in this series. It is a digital copy of the paper euro — the same components in the same arrangement, and innovation is precisely a rearrangement of components.

One more layer sits underneath all four types. The word "pay" descends from the Latin *pacare*: to pacify, to settle a conflict. Egypt drew it before Rome named it: *Ma'at* weighing the heart against a feather. The heart should weigh nothing — the cycle in balance, nothing standing. Paying was never primarily about the coin. It was about restoring a balance so that life could move on. The primitive of every money system is the balance, not the medium.

The MAZE Bank now falls into place as an arrangement of these four types across its layers. The pod runs on Communal Sharing: giving without a book. The maas runs on Equality Matching: action for action, balance kept, sum zero — the seed is an Equality Matching instrument, not a currency. The border runs on Market Pricing: euros, prices, contracts, where the outside world lives. And Authority Ranking is deliberately absent: there is no layer above with a total to steer, no tribute flowing up. Each layer carries its own relation type, and therefore its own medium. That is the deeper reason the ledgers do not add up: the four types have four different scales, and there is no exchange rate between a gift, a turn, and a price.

IV. Three kinds of money: purchase, loan, gift

Steiner's distinction is not decoration. It types the moves of the ledger, and the seven-move alphabet carries it without changing a single primitive.

A purchase is a pair that closes on the spot. Action given for action received, booked on both sides at once, sum zero in the same moment. Most of the traffic of a maas is purchase.

A loan is a pair with an agreed way back. One side goes to minus, the other to plus, and both know the return route: through zero, later. In the ledger this is a long-lived holding — an open position that both sides have signed, with the closing still to come. A loan is not a different substance. It is the same move, stretched in time.

A gift is a booking with no way back. Value passes and the giver will never draw it. This is Communal Sharing entering the book and deliberately not closing. And here decay shows its second face. Under decay, every credit that stands unclaimed rusts away — which means every unclaimed plus completes itself as a gift to the whole maas, automatically. What Gesell designed as an incentive, Steiner named as a destination: all money ends as gift money. In the MAZE Bank that destination is not a moral appeal. It is the arithmetic of the decay rate.

The type is a field on the process, frozen in the configuration when a maas opens, like the alphabet itself. The sum-zero property holds under all three types; the type only says what kind of closing is expected — immediate, later, or never.

The loan type brings the third Steiner element with it: the guarantee circle. Inside a maas, a loan is not covered by collateral. It is covered by co-signature: several members counter-sign the same holding, standing for it together, exactly as the Waldorf parents stood for their school's loan in 1974, and exactly as hawala's *aval* — the word itself means guarantee — has worked for centuries. When a loan does not close, the tension does not jump straight to the circle. It runs first along the guarantors, who have every reason to help close it, and only then does it rise a layer. Collateral secures a loan against a person. A guarantee circle secures it with persons.

And one rule is fixed here, permanently, with a historical reason attached. No interest. Ever. The Swiss WIR ring, founded 1934, is the longest-running closed business currency in the world, and it degenerated in exactly one way: it introduced interest, and with interest came the habits of the bank it had meant to escape. Decay is the only price of time in a maas. The rule is not a parameter; it is part of what the instrument is.

V. The maas

The unit of the bank is not the account. It is the maas — a mesh, a closure: a ring in which chains of action come back around. The baker supplies the joiner. The joiner repairs for the farmer. The farmer supplies the baker. The loop returns. Where loops return, there is a maas. Where they run off and never come back, there lies a border.

This turns membership into a measurement instead of a declaration. You belong to a maas because your bookings close with the others. Not because you signed a form, share a value, or live at an address. The ledger reads who belongs. The circle is found, not named. This is why the design deliberately avoids the word "community" as a foundation. Community is a feeling and a claim; closure is a number.

The measurement also sets the scale. The largest a maas can grow is not a headcount but a closure depth: the moment chains can no longer close within the ring and must pass through middlemen, the maas splits. Two rings, each closing internally, replace one that no longer can. The infrastructure — the net, the addressing, the receipts — scales without limit. The maas does not, and should not.

Inside, the arithmetic is strict and small. A transaction is an action given for an action received, booked on both sides at once. The sum of the whole maas is therefore zero by construction; the ledger closes at every moment, not at year-end. A balance is never stored. It is a sum over receipts, recomputed on every booking. There is no number that can be corrupted, only a chain of receipts that can be checked.

Euros do not appear inside the maas at all. When something cannot close internally — a hall rented from the municipality, a sack of flour bought from a wholesaler — it is registered as a border-posting, in euros, and never exchanged. Seeds stay in. Euros move outside. The border-posting joins the two books without converting between them. There is no exchange rate, no buy-in, no way for outside money to purchase a position inside.

Between two maases, the border works the hawala way. When members of one ring deal with members of another, the border-postings are paired: an obligation outward here is set against an obligation inward there, and the pairs settle against each other with nothing moving. Only the residue that will not pair becomes, periodically, a single euro-posting at the outer border. Two rings can trade for a season and owe the euro world one line. This is not a payment innovation; it is the oldest settlement system on earth, applied between meshes.

This border discipline is also the legal position. Nothing callable is held in legal tender, so the maas needs no banking licence. Where the euro-side grows — a shared building, paid staff — a cooperative jacket at the border holds the euro obligations, with the licensed institutions it must deal with. The maas itself remains unremarkable.

None of this is invented. It is old and worldwide practice, given an instrument. The tontines of West Africa, the susu of Ghana, the chit funds of India, the arisan of Indonesia, the Hungarian kaláka, the Indonesian gotong royong: rings that close by memory, turn and trust, running for centuries. Hawala: value transferred across continents by paired obligations that settle against each other, with

almost nothing moving. LETS and the time banks: the same mutual-credit form, rebuilt in Western neighbourhoods within living memory. The Swiss WIR since 1934: a closed business-to-business ring that demonstrably steadies its members against the credit cycle. Sardex in Sardinia since 2010: the same, rebuilt after a banking drought. Nearly every reader has stood inside at least one of these. The MAZE Bank does not create this practice. It gives the existing practice a ledger that closes by construction, an address that cannot be faked, and a set of numbers to read its own state.

VI. Three numbers

Because the ledger closes, it is also an instrument. A maas can read its own health the way the MAZE weather service reads the sky: not from one number, but from a signature.

Three numbers are read each cycle, each against the cycle's own average. First, the stock per member, against the equilibrium $F^\star$. Second, the concentration: the share of the cycle's flow that passes through the ten busiest members. Third, the velocity: how often a seed turns over before it rusts away.

One number is noise. A high stock alone may be a good harvest. High concentration alone may be one busy workshop. Low velocity alone may be August. The three together carry a signature, and one signature is dangerous: stock rising above the mark, concentration climbing, velocity falling — all at once. Tension piling up, on fewer nodes, moving slower.

The trigger is not any level. It is the speed of the build-up: how fast the three numbers move away from their own cycle average, together. A maas that drifts is living. A maas whose signature accelerates is loading.

And here is the twist that the wider MAZE work keeps finding, in markets, in ecosystems, in institutions. The precursor to collapse is not the chaotic phase. It is the well-regulated one: everything optimised, all the slack squeezed out, every position efficient. A perfectly equal, motionless stock is not health but stiffness. A living maas is slightly untidy — balances breathing around zero, flow shifting between members, velocity varying with the season.

There is no forecasting model here, and none is needed. The ledger the circle already keeps is the instrument. That yields an immediate, honest test. Take one existing association — a choir, a football club, an energy cooperative. Take one full year of its ordinary euro bookkeeping. Compute the three numbers on it, cycle by cycle. If the signature says nothing that the treasurer did not already know, the instrument has failed and should say so. If it reads the year's tensions before the treasurer names them, the instrument has earned its next step. This test runs before a single seed is issued. It is the falsification built into the design.

VII. Who decides, and what escalates

The bank makes exactly one governing decision recurrent: the decay rate, set once a cycle. It is set by the circle that lives inside the maas — the members whose bookings close there — with the three numbers on the table. Not by a board above, because there is no above with a total to steer. Interest is not on the table; that rule is fixed for good.

Government inside the maas follows the circle form. Decisions by consent: not unanimity, but the absence of a reasoned objection. Roles that rotate: the person keeping the cycle's rhythm this year hands it on next year. No role owns the ledger, because the ledger is a sum over everyone's receipts and belongs to the arithmetic, not to an officer. The treasurer, the figure every association depends

on and exhausts, is the first role the maas retires: the bookkeeping is the booking. Every transaction books itself on both sides, and the year closes because every day closed.

Between layers runs one rule, and it replaces an entire supervisory apparatus. What does not close in a layer activates the layer above — and becomes more expensive there. A loan that falters runs first along its guarantors, who signed for it and have every reason to help it close. A dispute two members cannot settle rises to their circle and costs the circle's time. What a circle cannot close rises to the ring of circles, and costs more still. What cannot close anywhere is finally a border matter, in euros, at euro prices, under euro law — the most expensive place of all. The ladder gives every layer a reason to close its own tensions low, early, and cheaply. Escalation is not punished. It is simply priced.

Above the circles sits a single role that decides nothing: the observer. The observer reads the three numbers of every maas, publishes them, and speaks when a signature accelerates. No veto, no budget, no seat at any table. Someone has to watch the whole while everyone else works a part. The moment the observer acquires power, the role has failed and must be split. The Steiner banks carry a cousin of this role: they publish what the money finances, so that every saver can see the whole. In the maas, transparency is not a report; it is the ledger itself, readable by every member.

VIII. Built

All of this now runs, as a service on the MAZE, at maze.swarp.nl/bank. The MAZE itself is infrastructure: one address space. The knowledge net at maze.swarp.nl, the weather at weer.swarp.nl, and the bank are services on it — not separate installations, not separate instances. A maas opens with its parameters frozen at the first moment. The rest is arithmetic over receipts.

The process alphabet is frozen at opening: seven moves by default, with the nine-move set as the explicit, chosen alternative. The choice is configuration, tested in both positions, not a hard-coded assumption. The purchase/loan/gift type rides on the same configuration.

The ledger is held at the node, in the manner of Holochain, not a blockchain. There is no global chain, no mining, no token. Every receipt carries a hash of its own content and of each member's previous receipt. Alter a booking, or drop one, and the chain breaks — provably, checkable by anyone, without any secret. Agent-centric integrity replaces global consensus, because a maas does not need the world to agree; it needs its own members' books to interlock.

Both sides sign. A booking with one signature is a promise — the holding state — that counts only once the other side countersigns. A loan is a holding that lives long and can carry the counter-signatures of its guarantors. Holding is visible: a maas can read how much of its flow consists of promises not yet accepted, which is itself a tension number.

The address is the blueprint. A member's own address comes through the net's crown, computed from birth date and birthplace. The ledger address and the life-blueprint are one thing: what identifies you in the book is what the net computes you to be, not a username.

And there are no euros, by design. No payment rail, no convertibility, no way for outside money to buy in. The border is a posting, not a door.

What is built is the kernel: alphabet, receipts, signatures, closure measurement, the three numbers. What comes next follows from the family: the purchase/loan/gift type on every process; the multi-signature guarantee circle on the loan; the hawala-pairing of border-postings between maases; and, in the service layer above the kernel, the closing brokerage that Sardex proved necessary — the

function that sees which chain could close with which booking and proposes it, so that loops close by suggestion and not only by luck. That service layer is also where the association lives: contributions, the paid conductor, the shared bar stock, all booked without a treasurer touching them. The first acceptance test is already defined: one real association, one full financial year, rebooked inside the service, with the three-number report on the euro books run in advance as the falsification gate.

IX. Why now

The bank is the instrument of a larger move, and it has a floor and a ceiling.

The floor: below the maas sits the pod — the handful of people, at most a few dozen, who simply share and keep no book. A ledger there would be a kind of insult. Warm circles do not invoice each other, and a design that pushes bookkeeping into them has misread its own foundations. The book begins above the pod, at the network level, where several pods deep the sharing can no longer close by memory. That is where this bank lives — not below, in the family, and not above, in the nation.

The ceiling: the bank's domain is the slow demonetisation of the five sectors that carry most of a household's spending — housing, energy, food, care, education. Sector by sector, the measure of progress is one number: how much of what used to leave the circle as euros now closes as an internal loop. Call it the contribution number. It does not measure growth. It measures how much of life has stopped needing money.

The human picture is concrete. A street where the retired teacher's hours toward the children's homework close against the neighbour's hours on her roof. A choir whose conductor is the one paid role, booked at the border in euros, while everything else — the hall shifts, the sheet-music library, the driving — closes inside. A baker who runs his neighbourhood's rounds in seeds and pays his flour wholesaler in euros through one border-posting a week, without ever exchanging one for the other. A loan for the new oven, signed by five neighbours instead of secured on the house. A treasurer who, for the first time in forty years of Dutch association life, has nothing to keep.

None of it is a confrontation. Like the licence-free maas and the cooperative jacket at the border, the bank is built to be unremarkable — not an attack on the existing system, but a second route that carries when the first one does not. The clock is the only part that is not gentle. The window for building second routes is the present phase, before the larger cycle turns; the estimate in the underlying work puts the turn between 2027 and 2030. Rings that exist before a tightening carry their members through it — the WIR did exactly that through every Swiss credit crunch since 1934. Rings founded during the tightening arrive too late to have earned trust.

So the invitation is small and testable. Bring one association's year of bookings. Read the three numbers against it. If they say nothing, the design has failed its own test and you have lost an afternoon. If they read the year, open a maas: name it, let the bookings find who belongs, and book action for action — purchase, loan, or gift.

Annotated references

J. Konstapel, "The Bank of the Future: a Community Float, a Decay Rate and a Ledger That Does Not Add Up," constable.blog, 21 August 2026. Why read it: the source design. The float analysis, the cost = $k \cdot \sigma \cdot \Delta r$ shape, the equilibrium $F_{\star} = i \cdot N/d$, the non-adding ledgers, the circle

governance with consent and rotating roles, the escalation ladder, and the three-number signal cycle all originate here in full.

J. Konstapel, "Breaking the Chain of Money," constable.blog, 29 June 2023. Why read it: the map of all alternative money systems. Four relation types as four forms of exchange, the Market Pricing bias of the West, the instrument lineage from barter via promise-to-pay and blockchain to Holochain, hawala, the digital euro as non-innovation, and paying as *pacare* — restoring a balance. Sections III and IV of this essay build on it.

J. Konstapel, "The End of Payments / The Maternal Exit," constable.blog, 25 December 2025. Why read it: the strategic frame. The pod that keeps no book, the network level where the book begins, the five sectors, the contribution number as progress measure, and the timing window before the bifurcation. The bank is the phase-2 instrument of this essay.

J. Konstapel, "The Price of a Euro," constable.blog, September 2026. Why read it: the monetary theory in one move. Money as tension made context-free — and the alternative: shorter chains, and money contained at the border.

J. Konstapel, "SWARP Handleiding," constable.blog, 21 February 2026. Why read it: the infrastructure underneath. One self-addressing net on balanced ternary; the knowledge archive, the weather, and the bank as services on the same address space.

Alan Fiske, "Structures of Social Life: The Four Elementary Forms of Human Relations," 1991. Why read it: the anthropological ground. Fiske's four relation types — Communal Sharing, Equality Matching, Authority Ranking, Market Pricing — each with its own scale of measurement, are the frame in which money proper is only one of four exchange forms.

Rudolf Steiner, "Nationalökonomischer Kurs" (World Economy), Dornach, 1922. Why read it: the three kinds of money. Purchase money, loan money, gift money as three movements rather than one substance, and money that ages and dies into the gift. The purchase/loan/gift typing of the ledger and the reading of decay as an automatic gift-route come from here.

On the GLS Bank (Bochum, 1974) and Triodos (Zeist, 1980). Why read it: the Steiner line built into banks. GLS began as guarantee circles — parents jointly standing for a Waldorf school's loan instead of pledging collateral — and both banks publish what savers' money finances. The maas guarantee circle and the ledger-as-transparency descend from this practice. Reading tip: start with GLS's own account of its *Bürgschaftsgemeinschaften* origin.

Silvio Gesell, "The Natural Economic Order," 1916. Why read it: the origin of rusting money. Gesell's demurrage is the direct ancestor of the decay rate; the Wörgl experiment of 1932 is its historical test, ended by decree rather than by failure.

James Stodder, "Complementary Credit Networks and Macroeconomic Stability: Switzerland's Wirtschaftsring," Journal of Economic Behavior & Organization, 2009. Why read it: the strongest empirical case that a closed ring stabilises. Stodder shows WIR turnover moving counter-cyclically: when Swiss bank credit tightens, WIR activity rises. This is the second-route function, measured over decades — and WIR's later drift toward interest is the reason the no-interest rule is fixed.

Paolo Dini and Giuseppe Littera on Sardex (various papers, 2014–2017). Why read it: the modern rebuild, and the brokerage lesson. Sardex shows a mutual-credit ring founded deliberately, in one region, after a credit drought — and shows that rings need active matchmaking to keep their loops closing, which is what the closing brokerage in the service layer implements.

Michael Linton and the LETS literature (from 1983); standard accounts of time banks and of the Totnes and Brixton Pounds. Why read it: the near family and its two lessons. LETS proved mutual credit on neighbourhood scale and died of dead balances — the case for decay. The convertible town pounds proved civic visibility and died of convertibility — the case for a border that is a posting, not an exchange rate.

Eric Harris-Braun, Nicolas Luck, Arthur Brock, "Holochain: scalable agent-centric distributed computing," 2018. Why read it: the implementation reference. Agent-held chains, content-addressed receipts, integrity without global consensus — the manner, not the platform, in which the maas ledger is held at the node.

Standard surveys of tontines, susu, chit funds, arisan, kaláka, gotong royong, and hawala. Why read it: the proof of age. The closed ring that clears by paired obligations is not a proposal but a centuries-old worldwide practice — and hawala's pairing of obligations is applied here between maases at their borders. The MAZE Bank is an instrument for this practice, not an invention of it.